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TITLE: Waste ion exchange resin volume reduction apparatus for resin incineration - has processing container containing ion exchange resin rotatably incorporated by rotation axis support mechanism and maintained in reduced pressure state by rotation axis airtight mechanism

PATENT-ASSIGNEE: FUJI ELECTRIC CO LTD (FJIE)

PRIORITY-DATA: 1998JP-0049621 (March 2, 1998)

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## PATENT-FAMILY:

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## APPLICATION-DATA:

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ABSTRACTED-PUB-NO: JP 11314080A

## BASIC-ABSTRACT:

NOVELTY - The apparatus has a processing container (1) containing waste ion exchange resin (20) and which is rotatably incorporated by rotation axis support mechanisms (6A,6B) and a rotational movement transmittance mechanism (5). A reduced pressure state maintained in the container according to rotation axis airtight mechanisms (4A,4B).

DETAILED DESCRIPTION - The apparatus has a gas introduction unit (3) configured by one side end of the direction of the rotation axis of the processing container for introducing a gas containing oxygen or oxygen into the processing container. A pump (7) to maintain the processing container in the reduced pressure state is distributed by another side end of the direction of the rotation axis of the processing container. A high-frequency induction coil (10) distributed outwardly on the processing container produces a high-frequency magnetic field which generates a discharge in the oxygen to form an active oxygen for incineration and thereby, volume reduction of the waste ion exchange resin. The inner surface of the container is uneven and has spiral grooves formed spirally as a main axis in the rotation axis for inner surface. The edge portion of the processing container is equipped with a conductive shield element which has a through hole in the direction of the rotation axis. A heat radiation unit to heat the ion exchange resin is

provided outwardly to the container. An ion exchange resin supply unit is distributed by one side end of the direction of the rotation axis of the processing container and a discharge unit to eject the residue produced by the volume reduction process is distributed by another side end of the axis of the container.

USE - For incineration of waste ion exchange resin for volume reduction of the resin.

ADVANTAGE - Since the container is rotated, the ion exchange resin is stirred well, and contacts effectively with the active oxygen formed by discharge therefore, early volume reduction of the resin is executed at fast process velocity. Since the resin which is incinerated to ash is conveyed outside continuously, the volume reduction apparatus works with quick process speed. Since heat radiation unit is provided to the container, the drying time of the hydrated ion exchange resin is shortened and hence process speed is increased.

DESCRIPTION OF DRAWING - The figure shows the sectional drawing of the ion exchange resin volume reduction apparatus. (1) Processing container, (3) Gas introduction unit, (4A, 4B) Rotation axis airtight mechanisms, (7) Pump, (10) High frequency induction coil, (20) Ion exchange resin.

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EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/10

DERWENT-CLASS: A35 A91 K07 P43

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